

## REMARKS

### I. Claims 1, 3-9, 11-15 And 17-18 Are Allowable

The Office has rejected claims 1, 3-9, 11-15 and 17-18, at paragraph 2 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent No. 6,870,836 (“Dyke”) in view of U.S. Patent No. 6,608,874 (“Beidas”). The Applicant respectfully traverses the rejections.

#### A. Claims 1 and 3-8

None of the cited references, including Dyke and Beidas, disclose or suggest the specific combination of claim 1. For example, Dyke does not disclose phase modulating an Asynchronous Transfer Mode (ATM) signal based on an Internet Protocol (IP) signal to form a combined ATM/IP signal, as recited in claim 1. In contrast to claim 1, Dyke discloses a point-to-multipoint optical transmission system, which enables the transfer of IP traffic in its native format over a passive optical network (PON). *See* Dyke, column 6, lines 38-40. Accordingly, Dyke does not disclose forming a combined ATM/IP signal, as recited in claim 1. Further, Beidas does not disclose this element of claim 1. Instead, Beidas discloses transmission of a modulated signal comprised of multiple pulses that interfere with one another in time or frequency. *See* Beidas, column 2, lines 37-41. The demodulator of Beidas suppresses the inter-symbol and cross-symbol interference of the modulated signal to recover the transmitted pulses and underlying data signals. *See* Beidas, column 12, lines 35-40. Accordingly, Beidas does not disclose phase modulating an Asynchronous Transfer Mode (ATM) signal based on an Internet Protocol (IP) signal to form a combined ATM/IP signal, as recited in claim 1. Therefore, Dyke and Beidas, separately or in combination, do not disclose each and every element of claim 1. Hence, claim 1 is allowable.

Claims 3-8 depend from claim 1, which Applicant has shown to be allowable. Hence, Dyke and Beidas fail to disclose at least one element of each of claims 3-8. Accordingly, claims 3-8 are also allowable, at least by virtue of their dependence from claim 1.

Further, the dependent claims recite additional features not disclosed by the cited references. For example, Beidas does not disclose that the phase modulating encodes multiple bits of the IP signal per pulse in the ATM signal, as recited in claim 3. Instead, Beidas discloses transmissions of a modulated signal having interfering pulses to a receiver, which is capable of demodulating the modulated signal and compensating for the interference. *See* Beidas, column 2, lines 36-41. For this additional reason, claim 3 is allowable.

**B. Claims 9 and 11**

None of the cited references, including Dyke and Beidas, disclose or suggest the specific combination of claim 9. For example, Dyke does not disclose generating, at the optical line terminal (OLT), a combined ATM/IP signal by phase modulating the ATM signal based on the IP signal and communicating the combined ATM/IP signal to multiple locations via the PON, as recited in claim 9. In contrast to claim 9, Dyke discloses a point-to-multipoint optical transmission system, which enables the transfer of IP traffic in its native format over a passive optical network (PON). *See* Dyke, column 6, lines 38-40. Accordingly, Dyke does not disclose generating a combined ATM/IP signal by phase modulating the ATM signal based on the IP signal, as recited in claim 9. Further, Beidas does not disclose this element of claim 9. Instead, Beidas discloses transmission of a modulated signal comprised of multiple pulses that interfere with one another in time or frequency. *See* Beidas, column 2, lines 37-41. The demodulator of Beidas suppresses the inter-symbol and cross-symbol interference of the modulated signal to recover the transmitted pulses and underlying data signals. *See* Beidas, column 12, lines 35-40. Accordingly, Beidas does not disclose generating, at the optical line terminal (OLT), a combined ATM/IP signal by phase modulating the ATM signal based on the IP signal and communicating the combined ATM/IP signal to multiple locations via the PON, as recited in claim 9. Therefore, Dyke and Beidas, separately or in combination, do not disclose each and every element of claim 9. Hence, claim 9 is allowable.

Claim 11 depends from claim 9, which Applicant has shown to be allowable. Hence, Dyke and Beidas fail to disclose at least one element of claim 11. Accordingly, claim 11 is also allowable, at least by virtue of its dependence from claim 9.

Further, the dependent claim recites additional features not disclosed by the cited references. For example, Beidas does not disclose that the phase modulating encodes two bits of the IP signal per pulse in the ATM signal, as recited in claim 11. Instead, Beidas discloses transmission of a modulated signal having interfering pulses to a receiver, which is capable of demodulating the modulated signal and compensating for the interference. *See* Beidas, column 2, lines 36-41. For this additional reason, claim 11 is allowable.

C. Claims 12 and 13-14

None of the cited references, including Dyke and Beidas, disclose or suggest the specific combination of claim 12. For example, Dyke does not disclose a phase demodulator to phase demodulate a combined ATM/IP signal to extract an IP stream, as recited in claim 12. In contrast to claim 12, Dyke discloses a point-to-multipoint optical transmission system that enables the transfer of IP traffic in its native format over a passive optical network (PON). *See* Dyke, column 6, lines 38-40. Accordingly, Dyke does not disclose a phase demodulator to phase demodulate a combined ATM/IP signal to extract an IP stream, as recited in claim 12. Further, Beidas does not disclose this element of claim 12. Instead, Beidas discloses transmission of a modulated signal comprised of multiple pulses that interfere with one another in time or frequency. *See* Beidas, column 2, lines 37-41. The demodulator of Beidas suppresses the intersymbol and cross-symbol interference of the modulated signal to recover the transmitted pulses and underlying data signals. *See* Beidas, column 12, lines 35-40. Accordingly, Beidas does not disclose a phase demodulator to phase demodulate a combined ATM/IP signal to extract an IP stream, as recited in claim 12. Therefore, Dyke and Beidas, separately or in combination, do not disclose each and every element of claim 12. Hence, claim 12 is allowable.

Claims 13 and 14 depend from claim 12, which Applicant has shown to be allowable. Hence, Dyke and Beidas fail to disclose at least one element of each of claims 13 and 14. Accordingly, claims 13 and 14 are also allowable, at least by virtue of their dependence from claim 12.

D. Claims 15 and 17-18

None of the cited references, including Dyke and Beidas, disclose or suggest the specific combination of claim 15. For example, Dyke does not disclose a phase modulator to phase modulate an ATM signal based on an IP signal to form a combined ATM/IP signal, as recited in claim 15. In contrast to claim 15, Dyke discloses a point-to-multipoint optical transmission system which enables the transfer of IP traffic in its native format over a passive optical network (PON). *See* Dyke, column 6, lines 38-40. Accordingly, Dyke does not disclose a phase modulator to phase modulate an ATM signal based on an IP signal to form a combined ATM/IP signal, as recited in claim 15. Further, Beidas does not disclose this element of claim 15. Instead, Beidas discloses transmission of a modulated signal comprised of multiple pulses that interfere with one another in time or frequency. *See* Beidas, column 2, lines 37-41. The demodulator of Beidas suppresses the inter-symbol and cross-symbol interference of the modulated signal to recover the transmitted pulses and underlying data signals. *See* Beidas, column 12, lines 35-40. Accordingly, Beidas does not disclose a phase modulator to phase modulate an ATM signal based on an IP signal to form a combined ATM/IP signal, as recited in claim 15. Therefore, Dyke and Beidas, separately or in combination, do not disclose each and every element of claim 15. Hence, claim 15 is allowable.

Claims 17 and 18 depend from claim 15, which Applicant has shown to be allowable. Hence, Dyke and Beidas fail to disclose at least one element of each of claims 17 and 18. Accordingly, claims 17 and 18 are also allowable, at least by virtue of their dependence from claim 15.

Further, the dependent claims recite additional features not disclosed by the cited references. For example, Beidas does not disclose that the phase modulator encodes multiple bits of the IP signal per pulse in the ATM signal, as recited in claim 17. Instead, Beidas discloses transmission of a modulated signal having interfering pulses to a receiver, which is capable of demodulating the modulated signal and compensating for the interference. *See* Beidas, column 2, lines 36-41. For this additional reason, claim 17 is allowable.

## II. Claims 2, 10 and 16 Are Allowable

The Office has rejected claims 2, 10 and 16, at paragraph 3 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent No. 6,870,836 (“Dyke”) in view of U.S. Patent No. 6,608,874 (“Beidas”) and further in view of U.S. Patent No. 3,701,106 (“Loshbough”). The Applicant respectfully traverses the rejections.

### A. Claim 2

As explained above, Dyke and Beidas do not disclose each of the elements of claim 1. Loshbough does not disclose the elements of claim 1 that are not disclosed by Dyke and Beidas. For example, Loshbough does not disclose phase modulating an Asynchronous Transfer Mode (ATM) signal based on an Internet Protocol (IP) signal to form a combined ATM/IP signal, as recited in claim 1. In contrast to claim 1, Loshbough discloses a detection device for sensing change in data, such as a motion detecting device, which has digitally variable sensitivities. *See* Loshbough, column 1, lines 44-49. Further, Loshbough does not disclose phase modulating the ATM signal based on the IP signal without exceeding a specified tolerance of symbol period of the ATM signal, as recited in claim 2. Therefore, Dyke, Beidas and Loshbough, separately or in combination, do not disclose each and every element of claim 1, or of claim 2, which depends from claim 1. Hence, claim 2 is allowable.

### B. Claim 10

As explained above, Dyke and Beidas do not disclose each of the elements of claim 9. Loshbough does not disclose the elements of claim 9 that are not disclosed by Dyke and Beidas. For example, Loshbough does not disclose generating, at the optical line terminal (OLT), a combined ATM/IP signal by phase modulating the ATM signal based on the IP signal and communicating the combined ATM/IP signal to multiple locations via the PON, as recited in claim 9. In contrast to claim 9, Loshbough discloses a detection device for sensing change in data, such as a motion detecting device, which has digitally variable sensitivities. *See* Loshbough, column 1, lines 44-49. Further, Loshbough does not disclose phase modulating the ATM signal based on the IP signal without exceeding a specified tolerance of symbol period of the ATM signal, as recited in claim 10. Therefore, Dyke, Beidas and Loshbough, separately or

in combination, do not disclose each and every element of claim 9, or of claim 10, which depends from claim 9. Hence, claim 10 is allowable.

C. Claim 16

As explained above, Dyke and Beidas do not disclose each of the elements of claim 15. Loshbough does not disclose the elements of claim 15 that are not disclosed by Dyke and Beidas. For example, Loshbough does not disclose a phase modulator to phase modulate an ATM signal based on an IP signal to form a combined ATM/IP signal, as recited in claim 15. In contrast to claim 15, Loshbough discloses a detection device for sensing change in data, such as a motion detecting device, which has digitally variable sensitivities. *See* Loshbough, column 1, lines 44-49. Further, Loshbough does not disclose to phase modulate the ATM signal based on the IP signal without exceeding a specified tolerance of symbol period of the ATM signal, as recited in claim 16. Therefore, Dyke, Beidas and Loshbough, separately or in combination, do not disclose each and every element of claim 15, or of claim 16, which depends from claim 15. Hence, claim 16 is allowable.

## CONCLUSION


Applicant has pointed out specific features of the claims not disclosed, suggested, or rendered obvious by the references applied in the Office Action. Accordingly, Applicant respectfully requests reconsideration and withdrawal of each of the rejections, as well as an indication of the allowability of each of the pending claims.

The Examiner is invited to contact the undersigned attorney at the telephone number listed below if such a call would in any way facilitate allowance of this application.

The Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-2469.

Respectfully submitted,

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Date

  
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